PARTIAL CASTRATION IN MONOPSYLLUS VISON (BAKER) (SIPHONAPTERA)[1]

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Smit (1963) and Holland (1952) showed that partially castrated male fleas with slight malformations were described as new species. In this report I describe initially puzzling malformations in genitalia of a male *Monopsyllus vison* (Baker) from New Mexico.

The partial castrate was in a series of 29 normal males and 27 normal females of *M. vison* collected in Los Alamos County, New Mexico, Jemez Mountains, Cañon de Valle, 8400 ft., 26 May 1970, ex 2 *Tamiasciurus hudsonicus* (Erxleben) nestlings with the aid of R. P. and J. Martin. In addition, 5 normal females were removed from the lactating red squirrel and 12 normal males and 10 normal females from the nest, which was built in a tree hole.

M. vison is a dark flea and malformations of internal genitalia were not noticed when the uncleared specimen was examined under low magnification. The shape of the left movable process (m.p.) (Fig. 1) suggested the odd specimen represented a form close to *M. ciliatus* (Baker). *M. ciliatus* is a variable species with four recognized subspecies, three of which have been collected from *Tamiasciurus* and *Eutamias* species in the western part of the range of *M. vison* and beyond (Johnson, 1961).

The odd specimen from the Jemez Mountains proved not to be a new form with a mixture of characters of *M. ciliatus* and *M. vison* but

[1]Accepted for publication: February 25, 1972 [3.0183].

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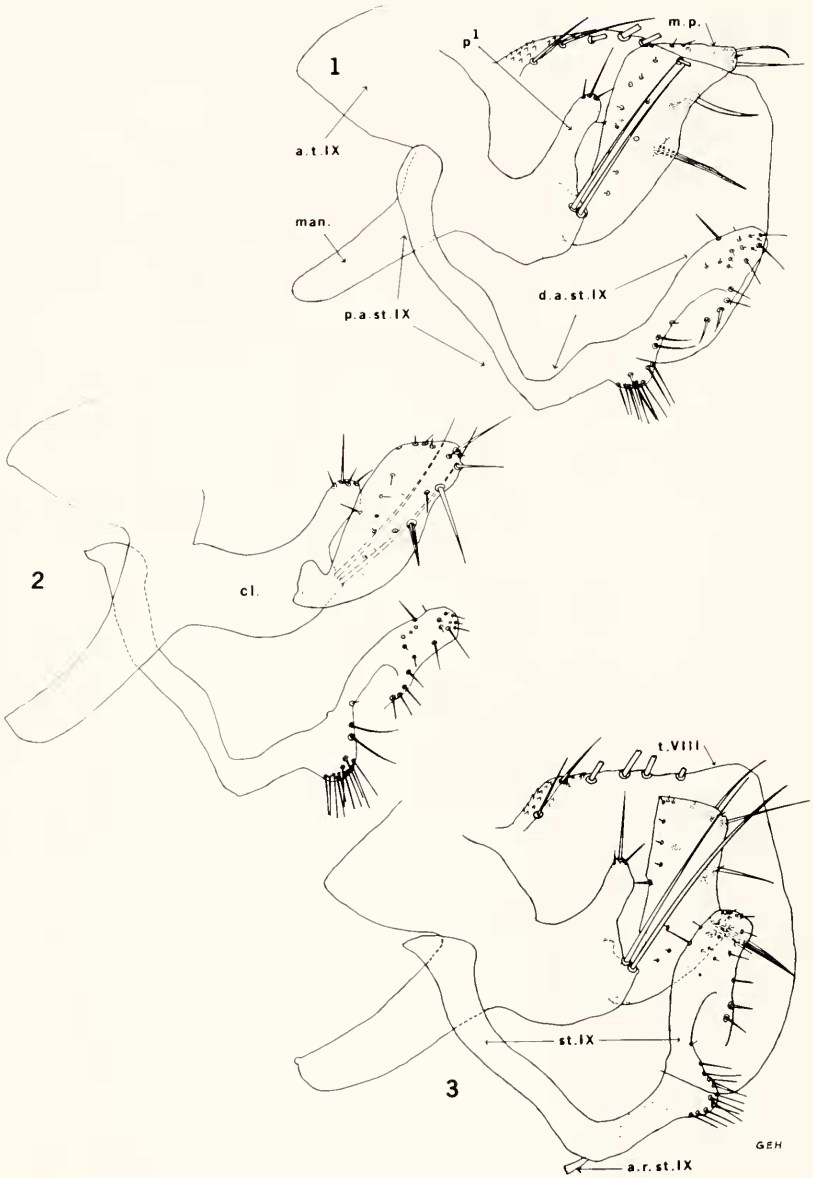
1
m.p.
p1
a.t.IX
man.
p.a.st.IX
d.a.st.IX
2
cl.
t.VIII
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3
GEH
a.r.st.IX

Fig. 1. *Monopsyllus vison* (Baker). Clasper, 9th sternum, and partial outline of 8th tergum of partially castrated male.

Fig. 2. *Monopsyllus vison* (Baker). Clasper and 9th sternum of partially castrated male. Ental aspect of right side.

Fig. 3. *Monopsyllus vison* (Baker). Clasper, 9th sternum, and partial outline of 8th tergum of normal male.

instead a partially castrated *M. vison.* On detailed study asymmetry in the movable process was apparent (cf. Figs. 1, 2) and several additional characteristics of partial castration were found. In the following description, the extent of some malformations may be seen by comparison with clasper, 8th tergum (t.VIII) and 9th sternum (st.IX) of a normal male (Fig. 3) collected from the nest.

Movable process, especially on left side, extended caudad at apex. Reduced posterior protuberance bearing large dark bristle with consequent narrowing of movable process in that portion. Margin of anterior apical angle rounded. Setae farther from that margin than in normal specimen. Chaetotaxy otherwise near normal. The malformed movable process of a male *M. sciurorum* (Schrank) with two sensilial plates (Beaucournu, 1969) resembles the malformed movable process of *M. vison.*

Apex of fixed process (p^1) extended dorso-caudad, body of clasper (cl.) elongated on right side, apodeme of 9th tergum (a.t.IX) less broadly connected to body of clasper. In the abnormal *M. sciurorum* this apodeme is not connected to the body of clasper (Beaucournu, 1969).

Manubrium (man.) on left side straighter, slightly shorter and narrower than normal. Margin of dorso-anterior angle rounded.

The 9th sternum with proximal arm (p.a. st.IX) narrower than normal and deformed, especially on left side. Distal arm (d.a. st.IX) straighter than normal. Apodemal rod of 9th sternum (a.r. st.IX) missing. Chaetotaxy from distal side of median lobe to apex of distal arm with several extra setae near ventral margin.

The 8th tergum (t.VIII) with margin of postero-apical angle lower than margin of dorso-apical angle and most of spiculated area. According to Johnson (1961), the only species of *Monopsyllus* in North America with a spiculated area on the 8th tergum in males is *M. thambus* (Jordan). Male specimens of *M. vison* from the Jemez Mountains, New Mexico, have a spiculated area on the 8th tergum.

The 8th sternum (not shown) normal except both subapical plumes

truncate at about three-fourths normal length. Aedeagus and Wagner's gland normal.

Acknowledgements: Supported in part by the U.S. Army Medical Research and Development Command through Contract No. DADA17-70-C-0022; B. E. Miller, Principal Investigator. Completion of this study facilitated by Drs. N. Wilson and J. Downey. Drs. Wilson and H. E. Stark reviewed the manuscript.

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2.0183 Partial castration in Monopsyllus vision (Baker) (Siphonaptera).

Abstract.—An unusual partially castrated male flea is described and its genitalia compared with the normal. The malformed movable process is extended postero-apically as in *Monopsyllus ciliatus* (Baker). The specimen is not a new form near *M. ciliatus*. It is *Monopsyllus vison* (Baker) and was collected from *Tamiasciurus hudsonicus* (Erxleben) (red squirrel) in the Jemez Mountains, New Mexico.—Glenn E. Haas, *677 Deerpath Drive, Deerfield, IL 60015.*

Descriptors: fleas; Siphonaptera; castration; genitalia morphology; genitalia teratology; *Tamiasciurus hudsonicus* (red squirrel), *Monopsyllus vison* from; New Mexico, *Monopsyllus vison* in; *Monopsyllus ciliatus*.